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09/898,948	07/03/2001	Greg Hetherington	GRIHAC P22AUSD1	7448

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EXAMINER	
COLBERT, ELLA	
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3624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/898,948	Applicant(s) HETHERINGTON, GREG
	Examiner Ella Colbert	Art Unit 3624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *54-106* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *95 and 96* is/are allowed.

6)☒ Claim(s) *54-66,69-84,87-94 and 97-106* is/are rejected.

7)☒ Claim(s) *67,68,85 and 86* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 78 is objected to because of the following informalities: Claim 78, page 6, line 3 recites "hierarch". Does Applicant mean "hierarchy"? Claim 93, page 8, line 3, recites "an" before "syntactic information (attributes)". Claim 93 should recite "and" before "syntactic information (attributes)". Appropriate correction is required.

2. Applicant's IDS is missing. The submission of the IDS is requested for consideration.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 54-106 are rejected under the judicially created doctrine of double patenting over claims 1-39 of U. S. Patent No.6,272,495 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the '495 patent and is covered by the patent since the '495 patent and the application are claiming common subject matter, as follows: free-format data stored in a computing system, comprising steps of examining elements of the data to determine the attributes, producing additional data relating to this information, the additional data being accessible by query processing means, accessing the data to manipulate the data, the free-format data being stored as a record, the text object including an attribute-type identifier, the text object including a value indicating a character length and whether an element is lower in a syntactic hierarchy, the text object including a match weighting value, the text object comprising a plurality of component nodes, the matching value being a phonetic value, the text object including implied data, a plurality of free-format data records being processed, the text object being stored in the computer system, each entry in the text object index including a representative value key, a step of carrying out a domain construction process to construct a domain object, the domain definition data files include character definition data, the free-format data is postal address data, the query processing means

can carry out normal database operations, the free-format data being stored as a record in a free-format field, , the examining means does not affect the storage of the data, the text object means for generating matching values for comparing an element, the text object index includes representative value keys for entries, a plurality of free-format data records, and comprising the steps of storing additional data relating to semantic and syntactic information.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 54-59, 73-78, 93, 94, and 97-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta et al (5,826,258), hereafter Gupta.

With respect to claims 54, 73, 97-99, 101, 105, and 106, Gupta teaches, examining elements of the data to determine attributes ... (col. 5, lines 5-31), examining the contents of the elements and the contextual relationships of elements to each other ... determine semantic and syntactic information about the data (col. 4, lines 32-41 and col. 5, lines 47-57 and fig. 4), and

producing additional data relating to information in the form of a text object including a pointer means enabling access to the elements of the free-format data (col. 4, lines 41-50). Gupta did not teach, additional data being accessible by a query processing means to provide answers to the queries relating to the semantic and syntactic information about the data and/or to access the data to manipulate the data, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement his teaching of querying (searching) (as taught in the background section, columns **1** and **2**) because relational database queries can be utilized to find information of interest including attributes in syntactic and semantic information. Gupta teaches, producing virtual data fields associated with each record ... and the associated elements, where each record is provided with associated virtual data fields ... to semantic and syntactic information ... and access to the associated elements (col. 5, lines 7-39 and col. 6, lines 1-23).

With respect to claims 55 and 74, Gupta teaches, the free-format data is stored as a record in a free-format field of a database (col. 8, lines 21-30).

With respect to claim 56, Gupta teaches, the data remains stored in the computing system as it was originally stored ... accessed by other applications" (col. 8, lines 31-43).

With respect to claims 57 and 76, Gupta did not explicitly teach, the text object includes an attribute-type identifier ... of an element of the data. It would have been obvious at the time the invention was made to one having ordinary skill in the art of text objects to have an attribute-type identifier ... of an element of the data and to modify in Gupta because such a modification would allow Gupta to have a database record with the name or structure of a field containing

information in the form of attribute identifying data. The data may be a name identifier attribute (for example: a street name or a state name) identifying each attribute field.

With respect to claims 58 and 77, Gupta did not teach, the text object includes a value indicating the character length of an element of the data. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a text object with a value indicating the character length of an element of data and to modify in Gupta because such a modification would allow Gupta to have characters in words with different lengths and the permutations generated for a particular address and the values according to their association with a particular attribute.

With respect to claims 59 and 78, Gupta did not teach the text object includes a value indicating whether an element is low level in a syntactic hierarchy or higher level whereby the value may be used for matching purposes when matching data with other data processed in accordance with the method. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the text object to include a value indicating whether an element is in a low level in a syntactic hierarchy or higher level whereby the value may be used fro matching purposes when matching data with other data processed in accordance with the method and to modify in Gupta because such a modification would allow Gupta to have words with the highest values placed above and used to establish the order of precedence. Syntactic hierarchies are used to provide an organizational framework that reflects the logical links or relationships between separate elements.

With respect to claims 75, 100, and 102, Gupta did not teach, the examining means does not affect the storage of the data, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to not have the examining means to affect the storage of the data and to modify in Gupta because such a modification would allow Gupta to have the data typically stored on a computer readable storage medium like a hard drive or memory and to be typically performed by a user, the step can be automated so that the step is performed by a programmed computer system.

With respect to claims 93 and 94, Gupta teaches, a plurality of free-format data records (col. 6, lines 24-43), comprising steps of storing additional data relating to semantic and syntactic information (attributes) about the data for each data record (col. 8, lines 21-40), the additional data being in the form of a text object associated with each data record (col. 8, lines 50-59), the text object including pointer means enabling access to elements of each free-format data record (col. 4, lines 41-50). Gupta did not explicitly teach, the additional data being accessible by a query processing means to provide at least one of the answers to queries relating to the semantic and syntactic information about the data and/or to access the data to manipulate the data but it would have been obvious to one having ordinary skill in the art at the time the invention was made in view of his teaching of querying (searching) (as taught in the background section, columns 1 and 2) because relational database queries can be utilized to find information of interest including attributes in syntactic and semantic information.

With respect to claims 103 and 104, Gupta teaches, computer readable memory storing instructions for controlling a computer to process free-format data stored in a computing system (col. 3, lines 55-67 and col. 4, lines 1-11).

6. Claims 60-66, 68-72, 79-84, and 87-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta in view of Chuah et al (5,515,534), hereafter Chuah.

With respect to claims 60 and 79, Gupta did not teach, the text object including a match weighting value for an element of the data which can be used to determine the significance of the element when matching with other free-format data.

Chuah disclosed this in col. 2, lines 13-56, col. 3, lines 49-67, and col. 4, lines 1-35. Gupta proposed producing additional data relating to the attributes; Chuah proposed a match weighting value for an element, and determining the significance of the element when matching free-format data. Gupta and Chuah together proposed producing additional data, a match weighting value for an element, and determining the significance of an element when matching free-format data. It would have been obvious at the time the invention was made to one having ordinary skill in the art of match weighting values to make a determination of the significance of the element because the processing of the free-matching elements when weighted are given scores. For example the match is a single word "DC" which matches a state attribute and generates an associated score 0.15 using the count 10 and k_1 and w_1 values (see Chuah, column 5, lines 46-50).

With respect to claims 61 and 80, Gupta nor Chuah teach, the text object comprises component nodes arranged according to the semantic structure of the free-format data and arranged in a hierarchy corresponding to the semantic structure of the free-format data and a component node including additional data relating to the corresponding element of the free-format data, but it would have been obvious at the time the invention was made to one having ordinary skill in the art of component nodes to arrange the nodes in a hierarchy corresponding to the semantic structure because each node has a unique identifier and a node value containing the word and syntactic information on the word in the hierarchy.

With respect to claims 62 and 81, Gupta did not teach, generating matching values for comparing an element of the free-format data with an element of other free-format data ... .

Chuah disclosed this in col. 4, lines 39-56. Gupta proposed enabling access to the elements of the free-format data; Chuah proposed the generation of matching values when comparing an element of free-format data. Gupta and Chuah together proposed accessing elements of free-format data and generating matching values when comparing an element of free-format data. It would have been obvious at the time the invention was made to one having ordinary skill in the art of comparing elements of free-format data to generate matching values because the elements of the values when matched are compared when forming the entries in the dictionary and passes the results to be processed (see Chuah, figures 4 and 6).

With respect to claims 63 and 82, Gupta nor Chuah teach, the matching value is a phonetic value for phonetically comparing elements of free-format data, but it would have been

obvious at the time the invention was made to one having ordinary skill in the art of phonetic values to have a matching value because phonetic values are given a classification according to their assigned matched value represented by a distinct character.

With respect to claims 64 and 83, Gupta did not teach, the text object includes implied data relating to information implied from the free-format data. Chuah disclosed this in col. 8, lines 63-67 and col. 9, lines 1-4. Gupta proposed processing free-format data; Chuah proposed a text object with implied data related to information from the free-format data. Gupta and Chuah together proposed processing free-format data, a text object with implied data related to free-format data information. It would have been obvious at the time the invention was made to one having ordinary skill in the art of implied data to have a text object because the free-formatted data record is characterized by a plurality of data words comprising sequences of data words associated with the attribute fields of the data record.

With respect to claim 65, 66, and 84, Gupta did not teach, a plurality of free-format data records are processed and a text object associated with each free-format data record is produced. Chuah disclosed this in col. 9, lines 34-52. Gupta proposed producing additional data in the form of a text object; Chuah proposed a plurality of free-format records and a text object associated with each free-format record being produced. Gupta and Chuah together proposed producing additional data in the form of a text object, a plurality of free-format records with a text object associated producing a free-format record. It would have been obvious at the time the invention was made to one having ordinary skill in the art of free-format data records to have a text object

associated with the free-format data record because the free-formatted data record is characterized by a plurality of data components having a predefined format with each being formed from a plurality of data attributes corresponding to attribute fields.

With respect to claims 69, 87, and 88, Gupta did not teach, carrying out a domain construction process to construct a domain object from domain definition data files. Chuah disclosed this in col. 2, lines 13-29 and col. 8, lines 7-29. Gupta proposed steps for processing free-format data; Chuah proposed constructing a domain object from domain definition data files. Gupta and Chuah together proposed steps for processing free-format data, and constructing a domain object from domain definition files. It would have been obvious at the time the invention was made to one having ordinary skill in the art of domain construction to construct a domain object from domain definition data files because the domain is constructed according to the attribute of the data that points to or connects to instances of the object.

Gupta nor Chuah taught, the domain object being arranged to carry out the examination process by parsing the free-format data in accordance with grammar rules, but it would have been obvious at the time the invention was made to one having ordinary skill in the art of domain objects to parse the free-format data according to the grammar rules because the domain object is arranged to carry out the examination process by parsing the free-format data according to the grammar rules since the parsing is done by comparing the string to be parsed to a grammar which defines possible structures.

With respect to claim 89, Gupta did not teach, a domain constructor for carrying out the domain construction process. Chuah disclosed this in col. 4, lines 19-35 and col. 7, lines 29-55. Gupta proposed processing free-format data; Chuah proposed a domain constructor for the domain construction process. Gupta and Chuah together proposed processing free-format data and constructing a domain construction process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a domain constructor for carrying out the domain construction process because the domain is constructed according to the attribute of the data that points to or connects to instances of the object.

With respect to claims 70 and 90, Gupta nor Chuah teach, the domain definition data files include character definition data, regular expression definition data and grammar data, but it would have been obvious at the time the invention was made to one having ordinary skill in the art of domain definition files to have character definition data, regular expression definition data, and grammar data because the text string is found at the node in the hierarchy according to the rules of grammar for establishing the usage of words and the construction of sentences in free-format data when parsing is performed.

With respect to claims 71 and 91, Gupta did not teach, the free-format data is postal address data. Chuah disclosed this in col. 8, lines 30-48. Gupta proposed examining elements and their relationships to each other; Chuah proposed the free-format data being a postal address. Gupta and Chuah together proposed examining elements and their relationships and having a postal address that is free-format data. It would have been obvious at the time the invention was

made to one having ordinary skill in the art of free-format data to have postal address data because a program checks the spelling of the city name which is associated with the zip code and the token is any combination or sequence of data words forming a free-formatted data record.

With respect to claims 72 and 92, Gupta did not teach, the query processing means can carry out normal database operations on the data via the additional data. Chuah disclosed this in col. 4, lines 39-52. Gupta proposed data being accessible by a query processing means; Chuah proposed the query processing means carrying out normal database operations on the data. Gupta and Chuah together proposed a query processing means to carry out normal database operations on the data. It would have been obvious at the time the invention was made to one having ordinary skill in the art of query processing to have normal database operations on the data because the database unloads an address where the normalization program is stored in the memory then the query is passed to the parser and the parser parses the queries according to the known strategies for parsing.

Allowable Subject Matter

7. Claims 67, 68, 85, and 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Applicants' step of producing a text object index including the attribute type identifiers for the elements of the data record with pointers to the data record with the index being queried by

queries related to semantic and syntactic information and the data being accessed via the index and a method for an entry in a text object index including a key value giving a value representative of a feature an element associated with an attribute-type identifier, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

9. Claims 95 and 96 are allowed.

10. The following is an examiner's statement of reasons for allowance: Applicants' additional data being in the form of a text object index including attribute-type identifiers for the elements of each data record and pointers to each data record with the text index object being accessible by a query means for providing at least one of the answers to the query relating to the semantic and syntactic information about the data and to access and to manipulate the data, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

11 . The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burns et al (5,454,106) disclosed parsing elements and querying a database.

Takeuchi (5,526,522) disclosed a syntactic tree format using a design knowledge base.

Van Zuijlen (5,060,155) disclosed a grammar and parser system.

Amirghodsi et al (4,974,191) disclosed natural language, character lengths, and an index.

Richardson et al (5,963,894) disclosed rule-based natural language parsing.

Heidorn et al (5,966,686) disclosed computing semantic logical forms from syntax trees

Inquiries

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. Ella Colbert whose telephone number is (703) 308-7064. The examiner can normally be reached Monday through Thursday from 6:30 a.m. to 5:00 p.m. EST. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Vincent Millin, can be reached on (703)308-1038.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703)305-7687, (for formal communications intended for entry).

Or:

(703)746-5622 (for informal or draft communications, please label **"PROPOSED"** or **"DRAFT"**).

Hand-delivered responses should be brought to Crystal Park V, 2154 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703)308-1113.

E. Colbert

E. Colbert

June 15, 2002

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